DEATHS DUE TO DRUGS & POISONS: 2003

In 2003, there were 220 deaths due to drugs and poisons (excluding 12 deaths due to carbon monoxide). This comprised approximately 12% of all deaths investigated (220/1,815). The total number of drug caused deaths has increased compared to 2002 figures when there were 216 drug deaths. In 2003, deaths due to drugs and poisons comprised 28.6% (220/768) of all suicides, accidents, and undetermined deaths combined.

Of the drug/poison deaths in 2003, 28% (61/220) were due to a single drug or poison, and 72% (159/220) were the result of drugs or poisons in combination. The year 2003 continued the trend of the majority of drug deaths being the result of multiple drug intoxication (72% in 2003, 65% in 2002, 65% in 2001, and 66% in 2000). Table 9-3 displays the specific drugs that caused death in 2003. Because of their prevalence, ethanol, cocaine (a stimulant), and opiates[1] (narcotic) are identified as separate drug categories.

The manners of "accident", "suicide", and "undetermined" are represented in the deaths due to drugs and poisons. In 2003, as in the past four years, there were no homicidal deaths in which drugs or poisons were the primary cause of the death, although the victim may have been under the influence of drugs at the time of the fatal incident.

The classification of undetermined manner is used when the circumstances surrounding the drug death does not allow clarification of whether the fatal intoxication was intentional, unintentional ("recreational"), or involved another person's actions. In the year 2003 there were 32 deaths of undetermined manner attributed to drugs and poisons compared to 20 in 2002, 21 in 2001, and 28 in 2000.

In 2003 there were 29 suicides attributed to drugs/poisons as compared to 23 in 2002, 20 in 2001, and 29 in 2000.

There were 159 accidental overdoses of drugs/poisons in 2003 compared to 173 in 2002, 124 in 2001, and 117 in 2000. In 2003, accidental drug deaths comprised 33% (159/482) of all accident deaths.

In 2003, 52% (114/220) of all deaths due to drugs and poisons involved cocaine or opiates[1], either alone or in combination. This compares with 58% (126/216) in 2002, 50% (82/165) in 2001, and 62% (146/234) in 2000.

[1] When the term "opiate" is used in this section, the drug detected by analysis is usually morphine, the source of which is either pharmaceutical morphine or, much more likely, heroin.

Opiates were the most frequently implicated drug, either alone or in combination, comprising 39% (85/220) of the drug caused deaths. This is a decrease compared to previous years except for 2001 when there were 64 opiate deaths.

Cocaine, either alone or in combination with other drugs, was implicated in 27% (59/220) of the 2003 drug caused deaths. These 59 cocaine deaths compare with 82 such deaths in 2002, 46 deaths in 2001, and 93 in 2000.

Of the combined drug intoxications involving either cocaine or opiates, 30 involved both cocaine and opiates (and possibly other drugs). Use of opiates and cocaine predominated in accidental and undetermined drug caused deaths.

Ethanol (alcohol) is also a drug to be critically examined for its contribution to the circumstances surrounding death. In 2003, seven accidental deaths were attributed to acute ethanol intoxication where ethanol was the single substance used. There were 53 deaths where ethanol, in combination with other drugs, was the cause of death. Blood alcohol (ethanol) tests were performed in 70% (727/1040) of non-natural deaths. Blood alcohol tests are only performed when death occurs within 24 hours of the initial injury/event. Positive blood alcohol levels were detected in 28% (207/727) of non-natural deaths where tests were performed.

Blood alcohol tests are performed on most persons who die within 24 hours of the incident. It should be noted that in many cases of traffic and homicide deaths, persons responsible for the death other than the decedent were under the influence of alcohol. The blood alcohol data is presented to show the levels of alcohol among those that died, but does not reflect the presence of alcohol among all parties involved.

Table 9-1 Blood Alcohol Testing and Manner of Death

Test Results	ACCIDENT	TRAFFIC	HOMICIDE	NATURAL	SUICIDE	UNDETER-MINED	TOTAL
Tested	272	120	79	410	203	53	1,137
positive	*62*	*43*	*26*	*70*	*63*	*13*	*277*
negative	*210*	*77*	*53*	*340*	*140*	*40*	*860*
Not tested	210	59	14	365	14	16	678
Total	**482**	**179**	**93**	**775**	**217**	**69**	**1,815**

Table 9-2 Blood Alcohol Testing as a Percentage by Manner

Test Results	ACCIDENT	TRAFFIC	HOMICIDE	NATURAL	SUICIDE	UNDETER-MINED	TOTAL
Tested	56%	67%	85%	53%	94%	77%	63%
positive	*23%*	*36%*	*33%*	*17%*	*31%*	*25%*	*24%*
negative	*77%*	*64%*	*67%*	*83%*	*69%*	*75%*	*76%*
Not tested	44%	33%	15%	47%	6%	23%	37%

TABLE 9-3 2003 Drugs & Poison Caused Deaths

Drug Name	Total Deaths Out Of 1,815 Cases In Which Drug Was Present [1]	Overdose Deaths (220)			Overdose Death [5]		
		In Which Drug Was Present [2]	In Which Single Drug Was Present [3]	In Which Multiple Drugs Were Present [4]	Accident	Suicide	Undetermined
Acetaminophen	50	25	3	22	12	8	5
Alcohol/Ethanol	285	60	7	53	46	10	4
Alprazolam	8	6	0	6	4	1	1
Amantadine	1	1	1	0	0	0	1
Amitriptyline	40	25	0	25	12	8	5
Amoxapine	1	1	0	1	0	0	1
Amphetamine	32	12	0	12	12	0	0
Antipyrene	1	1	0	1	0	1	0
Bupivicaine	4	0	0	0	0	0	0
Bupropion	22	13	0	13	8	5	0
Buspirone	1	1	0	1	0	1	0
Butalbital	2	2	0	2	0	2	0
Cannabinoids/THC [6]	166	38	0	38	29	4	5
Carbamazepine	6	2	0	2	2	0	0
Carbon Monoxide [7]	26	17	17	0	0	17	0
Carisoprodol	5	4	0	4	4	0	0
Chlordiazepoxide	5	3	0	3	3	0	0
Citalopram	42	22	0	22	15	4	3
Clonazepam	1	1	0	1	1	0	0
Clozapine	3	3	1	2	1	0	2
Cocaine [8]	81	60	8	52	50	2	8
Codeine [9]	52	39	0	39	31	3	5
Cyclobenzaprine	15	10	0	10	7	3	0
Desipramine	4	3	0	3	1	2	0
Dextromethorpan	22	14	0	14	7	3	4
Diazepam	87	28	0	28	19	4	5
Diltiazem	5	2	0	2	1	1	0
Diphenhydramine	67	31	1	30	18	6	7
Doxepin	12	8	0	8	4	2	2
Ethylene Glycol	1	1	1	0	0	0	1
Fentanyl	10	5	0	5	5	0	0
Fluoxetine	23	12	0	12	8	3	1
Gabapentin	16	11	0	11	7	0	4
GHB	2	0	0	0	0	0	0
Hydrocodone	28	15	0	15	11	2	2
Hydroxyzine	3	5	0	5	4	0	1
Ibuprofen	14	8	0	8	5	2	1

Footnotes for TABLE 9-3

1. This column includes all ME jurisdiction cases in which the specific drug or poison was detected in quantifiable levels in the decedent, regardless of cause and manner of death.

2. This column represents deaths due to drug/poison in which the specific drug (or poison) was present and includes drug/poison deaths due to both single and multiple drug overdoses.

3. This column represents deaths due to a single drug or poison.

4. This column represents overdose deaths caused by two or more agents in which the specific drug or poison was detected.

5. These columns show the manner of death in drug/poison overdose deaths in which the specific agent was detected.

6. Cannabinoids are listed if they were found at any level in blood or urine, not necessarily in quantified levels. Cannabinoids are not considered potentially lethal agents and, therefore, there are no instances of single drug overdose deaths involving cannabinoids or THC. Although cannabinoids/THC were not considered contributory to death, they were detected in overdose deaths as listed.

7. Carbon monoxide fatalities are listed if the level of carboxyhemoglobin was 10% or greater. Suicides due to intentional inhalation of carbon monoxide accounted for 11 deaths. Of these 11, other drugs may have been present, but they did not contribute to the death. Other sources of carbon monoxide besides intentional inhalation involved fire fatalities.

8. Includes Benzoylecgonine.

9. In the 39 overdose deaths involving codeine, the source of the drug was likely small quantities of codeine present in heroin used by illicit drug users.

10. In the 69 overdose deaths involving morphine, the source of the drug was likely the morphine derived from heroin preparations used by illicit drug users.

11. Monoacetylmorphine (MAM) is the first breakdown product of heroin, otherwise known as diacetylmorphine. The presence of MAM, therefore, proves the source of opiate to be heroin. However, the absence of MAM does not imply that the source of opiate was not heroin.

12. In six (6) of the 26 total cases, nortriptyline was present without the presence of amitriptyline, indicating that the source of the drug was in fact nortriptyline. In the other twenty (20) cases, amitriptyline was also present, indicating that the nortriptyline was present due to the breakdown of amitriptyline. Only one case out of the five nortriptyline deaths was an overdose, which was classified as an accident.

TABLE 9-3 (cont'd) **2003 Drugs & Poison Caused Deaths**

Drug Name	Total Deaths Out of 1,815 Cases In Which Drug Was Present [1]	Overdose Deaths (220)			Overdose Death [5]		
		In Which Drug Was Present [2]	In Which Single Drug Was Present [3]	In Which Multiple Drugs Were Present [4]	Accident	Suicide	Undetermined
Imiprimine	4	1	0	1	1	0	0
Insulin	1	1	0	1	0	1	0
Isopropanol	26	1	1	0	0	1	0
Ketamine	1	1	0	1	1	0	0
Lamotrigene	4	0	0	0	0	0	0
Lorazepam	15	7	0	7	2	3	2
MDMA	1	1	1	0	0	0	1
Meperidine	10	4	0	4	1	1	2
Meprobamate	8	7	0	7	6	1	0
Methadone	77	50	5	45	44	0	6
Methamphetamine	43	19	6	13	16	1	2
Methylphenidate	1	1	0	1	1	0	0
Metoprolol	1	0	0	0	0	0	0
Mirtazepine	11	8	0	8	7	1	0
Morphine [10]	137	69	0	69	55	4	10
Monoacetylmorphine [11]	22	20	4	16	16	1	3
Naproxen	6	3	0	3	3	0	0
Nortriptyline [12]	42	26	0	26	13	8	5
Olanzapine	4	2	0	2	2	0	0
Oxcarbemazepine	1	1	0	1	0	1	0
Oxycodone	42	17	0	17	11	5	1
Paroxetine	10	7	0	7	4	3	0
Pentobarbital	1	1	1	0	0	1	0
Phencyclidine	4	0	0	0	0	0	0
Phenobarbital	15	7	0	7	4	1	2
Phenytoin	23	7	0	7	5	2	0
Pine-Sol ®	1	1	1	0	0	0	1
Promethazine	20	12	0	12	9	1	2
Propoxyphene	5	2	0	2	2	0	0
Pseudoephedrine	5	2	0	2	0	1	1
Quetiapine	5	3	0	3	2	1	0
Salicylates	13	5	0	5	2	1	2
Secobarbital	1	1	1	0	0	1	0
Sertraline	25	9	0	9	5	1	3
Temazepam	7	4	0	4	2	1	1
Trimethobenzamide	1	1	0	1	1	0	0
Tramadol	6	4	0	4	1	2	1
Trazodone	24	10	0	10	5	1	4
Valproic Acid	6	3	1	2	1	1	1
Venlafaxine	28	16	0	16	9	5	2
Verapamil	4	2	1	1	2	0	0
Zolpidem	11	5	0	5	1	3	1

Graph 9-1 Deaths Caused by Drug/Poison 1994-2003

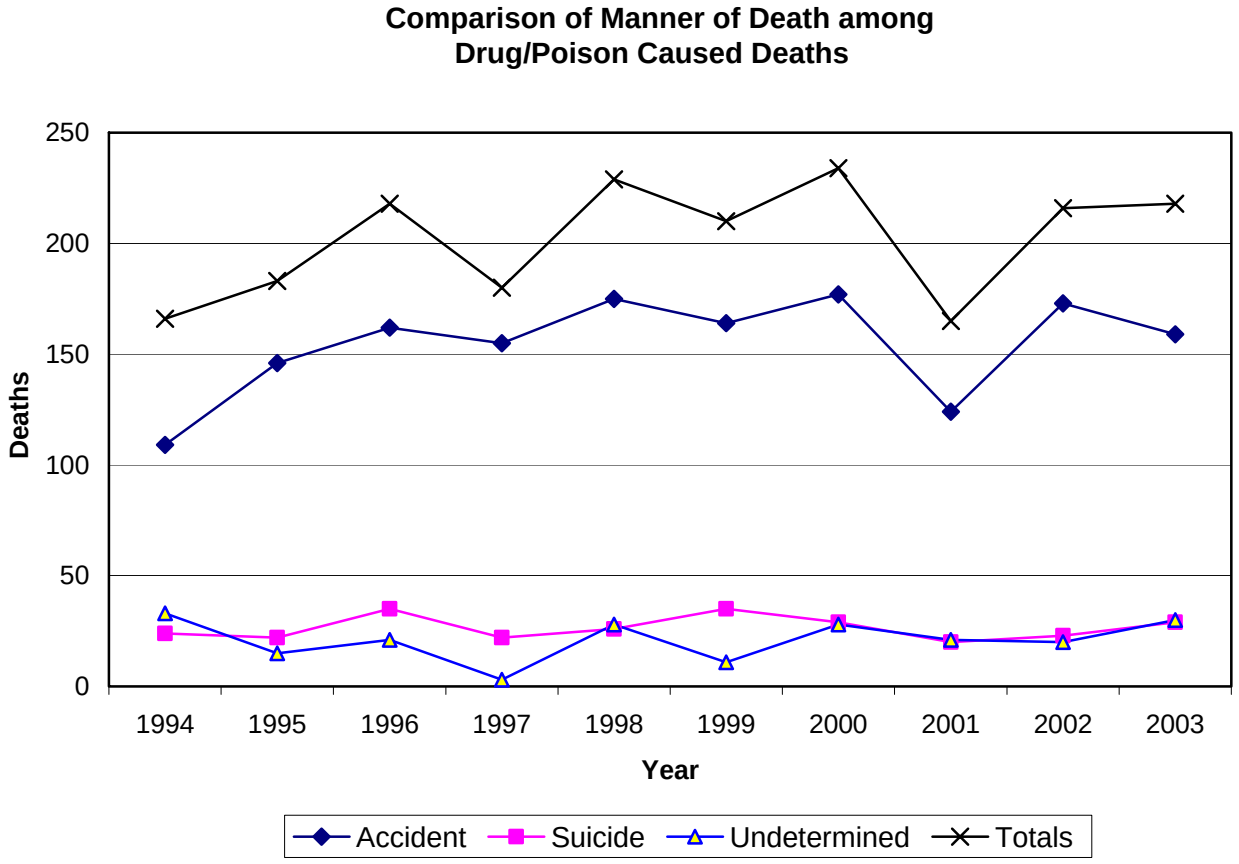
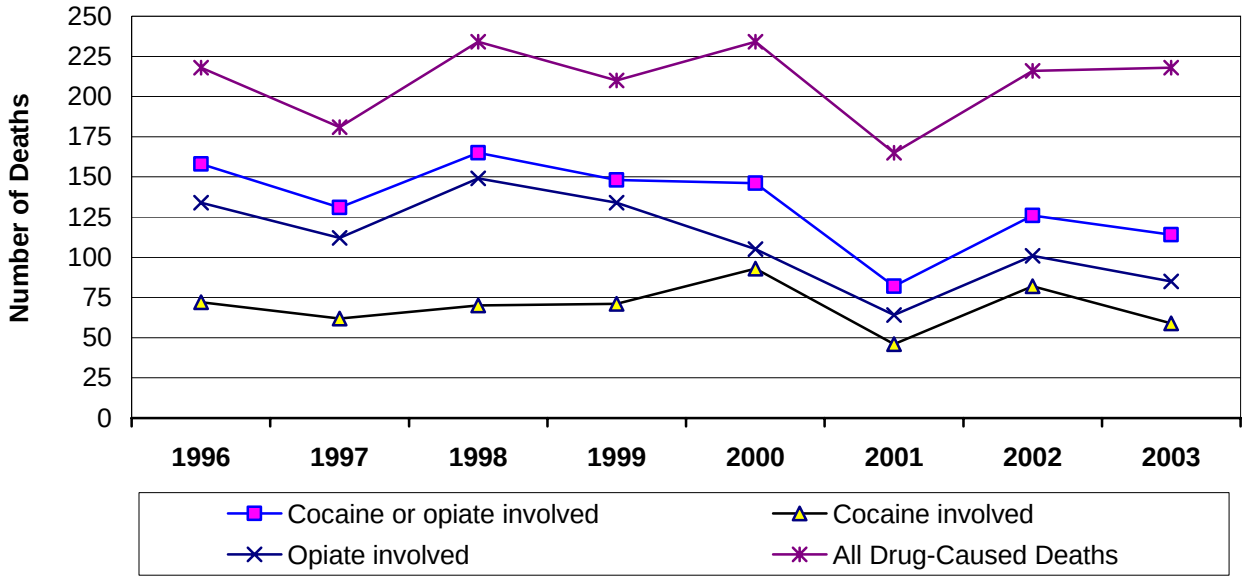


Table 9-4

Drug Caused Deaths Involving Cocaine, Opiates, and Ethanol: 1996-2003

DRUG COMBINATIONS FOUND	1996	1997	1998	1999	2000	2001	2002	2003
Cocaine alone	14	7	7	11	30	8	17	6
Cocaine and opiates [1]	28	17	14	29	18	13	19	6
Cocaine, opiates, and others [1]	20	26	40	28	34	15	38	24
Cocaine, others without opiates	10	12	9	3	11	10	8	23
Opiates alone	30	26	31	34	18	20	21	7
Opiates, others without cocaine [1]	56	43	64	43	35	16	23	48
Subtotal, cocaine or opiate involved	158	131	165	148	146	82	126	114
Percentage, cocaine or opiate involved	72%	72%	71%	70%	62%	50%	58%	52%
Subtotal, cocaine involved	72	62	70	71	93	46	82	59
Percentage, cocaine involved	33%	34%	30%	34%	40%	28%	38%	27%
Subtotal, opiate involved	134	112	149	134	105	64	101	85
Percentage, opiates involved	61%	62%	64%	64%	45%	39%	47%	39%
Ethanol/Alcohol involved [3]	N/A	N/A	106	60	81	37	56	61
Percent, Ethanol/Alcohol involved	N/A	N/A	45%	29%	35%	22%	26%	28%
All Drug-Caused Deaths	218	181	234	210	234	165	216	218
All Deaths Under KCME Jurisdiction	**1,558**	**1,491**	**1,507**	**1,472**	**1,506**	**1,578**	**1,683**	**1,815**

Graph 9-2 **Cocaine and Opiate Caused Deaths Compared with All Drug Deaths: 1996-2003**



Graph 9-3

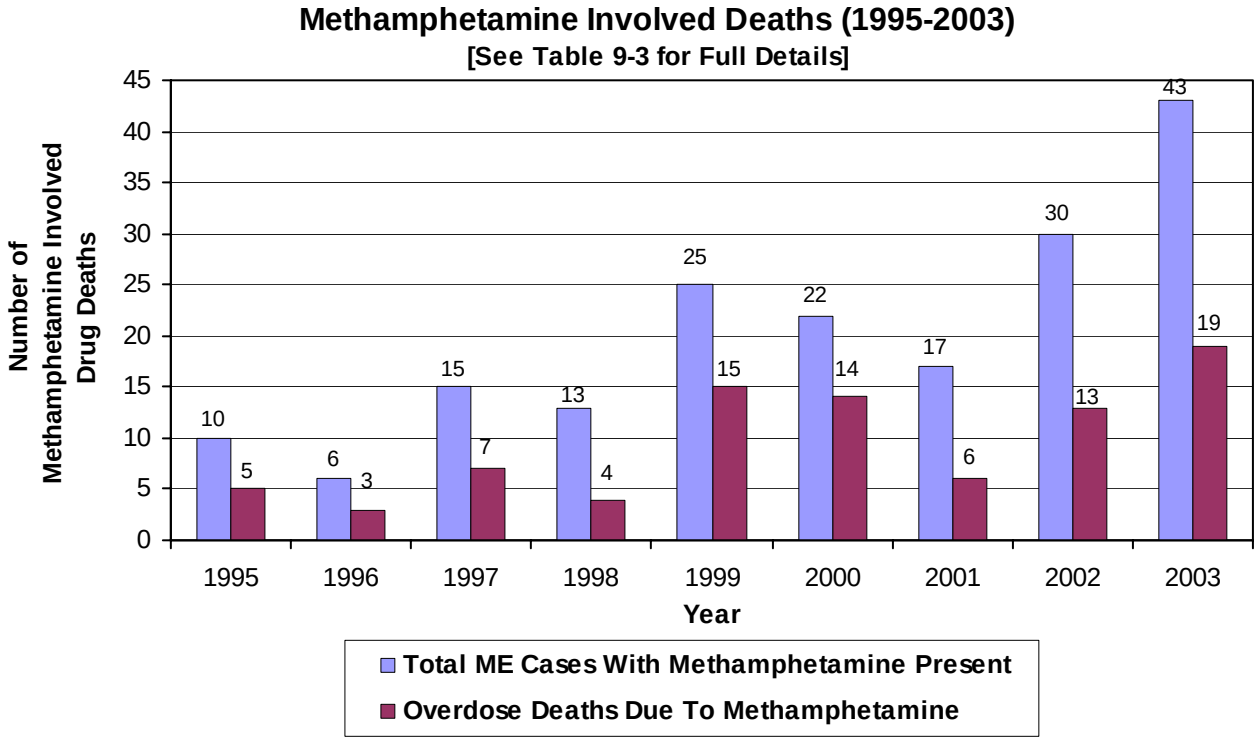


Table 9-5 Drug and Poison Deaths and Age Group of the Decedent

AGE GROUP (YEARS)	MANNER OF DEATH			SUB TOTAL	TOTAL
	ACCIDENT	SUICIDE	UNDETERMINED		
<20	6	1	2		9
Male	*6*	*0*	*2*	*8*	
Female	*0*	*1*	*0*	*1*	
20-29	24	2	4		30
Male	*16*	*1*	*2*	*19*	
Female	*8*	*1*	*2*	*11*	
30-39	34	6	3		43
Male	*20*	*4*	*2*	*26*	
Female	*14*	*2*	*1*	*17*	
40-49	51	9	10		70
Male	*31*	*4*	*5*	*40*	
Female	*20*	*5*	*5*	*30*	
50-59	39	9	9		57
Male	*29*	*6*	*4*	*39*	
Female	*10*	*3*	*5*	*18*	
60-69	5	0	1		6
Male	*3*	*0*	*0*	*3*	
Female	*2*	*0*	*1*	*3*	
70-79	0	1	1		2
Male	*0*	*0*	*0*	*0*	
Female	*0*	*1*	*1*	*2*	
80-89	0	0	1		1
Male	*0*	*0*	*1*	*1*	
Female	*0*	*0*	*0*	*0*	
90+	0	1	1		2
Male	*0*	*0*	*0*	*0*	
Female	*0*	*1*	*1*	*0*	
Total	**159**	**29**	**32**		**220**

Graph 9-4 Drug and Poison Deaths and Age Group of the Decedent